Claims

1. A nucleic acid sequence that codes a gene product or a portion thereof, comprising

a) a nucleic acid sequence, selected from the group Seq. ID Nos. 14-18, 30, 31, and 52,

b) an allelic variation of the nucleic acid sequences named under a)

or

c) a nucleic acid sequence that is complementary to the nucleic acid sequences named under a) or b).

2. A nucleic acid sequence according to one of the sequences Seq. ID Nos. 14-18, 30, 31, 52, or a complementary or allelic variant thereof.

3. Nucleic acid sequence Seq. ID No. 1 to Seq. ID No. 31 and Seq. ID 52, characterized in that it is expressed elevated in hysteromyomic tissue.

4. BAC, PAC and cosmid clones containing functional genes and their chromosomal localization according to sequences Seq. ID ~~No. 1 to Seq. ID No. 31 and Seq. ID 52~~ for use as vehicles for gene transfer.

5. A nucleic acid sequence according to claims ~~1 to 4,~~ 3 wherein it has 90% homology to a human nucleic acid sequence.

6. A nucleic acid sequence according to claims ~~1 to 4,~~ 3 wherein it has 95% homology to a human nucleic acid sequence.

7. A nucleic acid sequence comprising a portion of the nucleic acid sequences named in claims 1 to 6, in such a sufficient amount that they hybridize with the sequences according to claims 1 to 6.

8. A nucleic acid sequence according to claims ~~1 to 7~~ 3, wherein the size of the fragment has a length of at least 50 to 4500 bp.

9. A nucleic acid sequence according to claims ~~1 to 7~~ 3, wherein the size of the fragment has a length of at least 50 to 4000 bp.

10. A nucleic acid sequence according to one of claims ~~1 to 9~~ 3, which codes at least one partial sequence of a bioactive polypeptide.

11. An expression cassette, comprising a nucleic acid fragment or a sequence according to one of claims ~~1 to 9~~ 3, together with at least one control or regulatory sequence.

12. An expression cassette, comprising a nucleic acid fragment or a sequence according to claim 11, in which the control or regulatory sequence is a suitable promoter.

13. An expression cassette according to one of claims ~~11 and 12~~ 11, wherein the DNA sequences located on the cassette code a fusion protein, which comprises a known protein and a bioactive polypeptide fragment.

14. Use of nucleic acid sequences according to claims ~~1 to 10~~ 3 for producing full-length genes.

15. A DNA fragment, comprising a gene, that can be obtained from the use according to claim 14.

16. Host cell, containing as the heterologous part of its expressible genetic information a nucleic acid fragment according to one of claims ~~1 to 10.~~

17. Host cell according to claim 16, wherein it is a prokaryotic or eukaryotic cell system.

18. Host cell according to one of claims 16 ~~or 17,~~ wherein the prokaryotic cell system is E. coli, and the eukaryotic cell system is an animal, human or yeast cell system.

19. A process for producing a polypeptide or a fragment, wherein the host cells according to claims 16 ~~to 18~~ are cultivated.

20. An antibody that is directed against a polypeptide or a fragment that is coded by the nucleic acids of sequences Seq. ID Nos. 1-31 and Seq. ID 52, which can be obtained according to claim 19.

21. An antibody according to claim 20, wherein it is monoclonal.

22. An antibody according to claim 20, wherein it is a phage display antibody.

23. Polypeptide partial sequences according to sequences Seq. ID Nos. Seq. 32-51 and Seq. ID Nos. 53-55.

24. Polypeptide partial sequences according to claim 23, with at least 80% homology to these sequences.

25. A polypeptide that is known from a phage display and that can bind to the polypeptide partial sequences according to claim 23.

26. Polypeptide partial sequences according to claim 23, with at least 90% homology to these sequences.

27. Use of polypeptide partial sequences according to sequences Seq. ID Nos. 32 to 51 and Seq. ID Nos. 53-55 of claim 23 as tools for finding active ingredients against hysteromyoma.

28. Use of nucleic acid sequences according to sequences Seq. ID Nos. 1-31 and Seq. ID No. 52 of claim 23 for expression of polypeptides that can be used as tools for finding active ingredients against hysteromyoma.

29. Use of nucleic acid sequences Seq. ID Nos. 1-31 and Seq. ID No. 52 in sense or antisense form.

30. Use of polypeptide partial sequences Seq. ID No. 32 to Seq. ID No. 51 and Seq. ID Nos. 53-55 as pharmaceutical agents in gene therapy for treatment of hysteromyoma.

31. Use of polypeptide partial sequences Seq. ID No. 32 to Seq. ID No. 51 and Seq. ID Nos. 53-55 of Claim 23 for the production of a pharmaceutical agent for treatment of hysteromyoma.

32. Pharmaceutical agent, containing at least one polypeptide partial sequence Seq. ID No. 32 to Seq. ID No. 51 and Seq. ID Nos. 53-55 of Claim 23

~~33. A nucleic acid sequence according to claims 1 to 10,~~ 3

wherein it is a genomic sequence.

34. A nucleic acid sequence according to claims ~~1 to 10,~~ 3

wherein it is an mRNA sequence.

35. Genomic genes, their promoters, enhancers, silencers, exon structure, intron structure and their splice variants, that

can be obtained from cDNAs of sequences Seq. ID No. 1 to Seq. ID No. 31 and Seq. ID 52. of claim 3

36. Use of the genomic genes according to claim 33, together with suitable regulatory elements.

37. Use according to claim 36, wherein the regulatory element is a suitable promoter and/or enhancer.

38. A nucleic acid sequence according to claim ~~s 1 to 7,~~ 3 wherein the size of the fragment has a length of at least 300 to 3500 bp.

add B3